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**UTILITY
PATENT APPLICATION
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Attorney Docket No.	00EC037/78111
First Inventor or Application Identifier	Fischer
Title	PROVIDING CUSTOMER DATA TO AN AUTOMATIC CALL DISTRIBUTION SYSTEM AGENT
Express Mail Label No.	EL131186047US

PTO
S.B. 05
18667/50
09/30/20**APPLICATION ELEMENTS**

See MPEP chapter 600 concerning utility patent application contents

ADDRESS TO:Assistant Commissioner for Patents
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Washington, DC 202311. ☒ *Fee Transmittal Form (e.g. PTO/SB/17)
(Submit an original and a duplicate for fee processing)5. ☐ Microfiche Computer Program (Appendices)2. ☒ Specification
(preferred arrangement set forth below) Total Pages **17**6. Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)

- Descriptive title of the invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to Microfiche Appendix
- Background of the invention
- Brief Summary of the invention
- Brief Description of the Drawings (if filed)
- Detailed Description
- Claim(s)
- Abstract of the Disclosure

a. ☐ Computer Readable Copyb. ☐ Paper Copy (identical to computer copy)c. ☐ Statement verifying identity of above copies3. ☒ Drawing(s) (35 U.S.C. 113) Total Sheets **2****ACCOMPANYING APPLICATION PARTS**7. ☒ Assignment Papers (cover sheet & document(s))8. ☐ 37 C.F.R. § 3.73(b) Statement
(when there is an assignee) ☐ Power of Attorney9. ☐ English Translation Document (if applicable)10. ☒ Information Disclosure
Statement (IDS) PTO-1449 ☒ Copies of IDS
Citations11. ☐ Preliminary Amendment12. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)Statement filed in
Prior application,
Status still proper
and desired13. ☐ *Small Entity Statement(s)
(PTO/SB/09-12)014. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)15. ☐ Other: _____

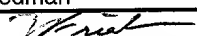
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PATENT APPLICATION
00EC037/78111

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1 PROVIDING CUSTOMER DATA TO AN
2 AUTOMATIC CALL DISTRIBUTION SYSTEM AGENT

3 BACKGROUND AND SUMMARY

4 The present invention relates to providing customer data in
5 an automatic call distribution (ACD) system.

6 ACD systems are typically used to distribute telephone calls
7 among a group of agents of an organization. ACD systems may be
8 used to distribute calls under any of a number of different
9 formats. In a first instance, the term "call" may be used to
10 refer to a request for communication received from (or placed
11 through) a public switched telephone network (PSTN). A call may
12 also be a voice path based upon packet data transferred through a
13 computer network such as the Internet using web telephony.
14 Alternatively, a call may be any communication such as an e-mail,
15 a facsimile, video, web-site inquiry received through the
16 Internet, etc. Thus, ACD systems are transaction processing
17 systems which typically handle one or more of a wide variety of
18 these "call" types.

19 An organization often disseminates a single telephone
20 number, URL or e-mail address to customers and to the public in
21 general as a means of contacting the organization. As calls are
22 directed to the organization from the PSTN or the Internet, the
23 ACD system directs the calls to the organization's agents based
24 upon some algorithm. For example, where all agents are
25 considered equal, the ACD may distribute a call based on which

1 agent has been idle the longest time. Of course, there are many
2 other possible ways to select an agent, or a subgroup of agents
3 from whom an available one will be selected.

4 The ACD system can be provided with any number of routing
5 mechanisms for establishing call paths between callers and
6 agents. In some systems, a first path may be established through
7 a circuit switched voice port, such as for calls from the PSTN.
8 An alternative path may be a data link (such as over a Local Area
9 Network (LAN)) such as for an e-mail received through a computer
10 network such as the Internet. A data link also can be used to
11 provide customer data to the agent. For example, such customer
12 data can include contact information relating to the particular
13 contact, such as a customer identifier provided by the customer
14 in response to automatic inquiries. As another example, such
15 data also can include previously stored information available
16 from a database of the organization.

17 Control of the switching and communications with a database
18 and with an external network such as a PSTN may, for example, be
19 accomplished generally as described in U.S. Pat. Nos. 5,268,903
20 and 5,140,611, both to Jones et al. which are hereby incorporated
21 by reference. Routing of calls to agents may, for example, be
22 accomplished generally as described in U.S. Pat. No. 5,335,269 to
23 Steinlicht, U.S. Pat. No. 5,365,581 to Baker et al., and U.S.
24 Pat. No. 5,400,327 to Dezonno, which are hereby incorporated by
25 reference.

1 In existing systems, providing an agent with customer data,
2 such as mentioned above, can require specialized application
3 programs for agent computer terminals. In some instances, it can
4 require disclosure of proprietary information to interface an ACD
5 with network computers. In some cases, it can limit an
6 organization to types of data and to a format built into
7 purchased ACD systems.

8 In one embodiment of the present invention, use is made of
9 browser application programs which now are readily available
10 independent of an ACD system, and which are already commonly
11 installed on many personal computers. Desired customer data and
12 its format can be tailored to the organization's needs, and can
13 be packaged as a web page. The ACD can provide a universal
14 resource locator (URL) to a browser of the agent, which accesses
15 the URL address at a server. The web page corresponding with the
16 URL is provided by the server to the browser. The data can be
17 displayed to the agent, regardless of the type of customer
18 contact with the organization's ACD system.

19 The features of the present invention which are believed to
20 be novel are set forth below with particularity in the appended
21 claims. The invention, together with further advantages thereof,
22 may be understood by reference to the following description in
23 conjunction with the accompanying figures, which illustrate some
24 embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a functional block diagram illustrating an embodiment of the invention.

Figure 2 is a flow chart illustrating the an embodiment of the invention.

DETAILED DESCRIPTION

Figure 1 is a functional block diagram illustrating an embodiment of the invention. The contact between an external unit 11 and an organization's ACD 12 can be in any one or any combination of ways, such as through a public switched telephone network (PSTN), an internet network, a local area network, or other voice and/or data network. This contact can, for example, be a traditional inbound telephone call. Some other examples of types of contacts include web callbacks, e-mail contacts, and web chat contacts.

Upon receiving a contact from an external unit 11, the ACD 12 will process the contact by routing it to an agent. The agent can be one of a plurality of agents at a plurality of agent stations. Communication between ACD 12 and an agent can be any suitable communication link including, for example, a data link and/or a circuit switched telephone connection. It could be through a private network and/or a public network (particularly for a remote agent). It could include hardwire and/or wireless communications.

1 In the embodiment of Figure 1, the agent station comprises
2 an agent personal computer 13 with a browser application program.
3 A browser is software which translates the digital bits in a
4 computer location to a medium which can be displayed meaningfully
5 to the user such as written text. A web browser is an interface
6 which allows display at a personal computer monitor of data
7 located in a computer network. Web browsers are readily
8 available and are commonly installed in personal computers today.

9 In the embodiment of Figure 1, the browser in the agent's
10 personal computer 13 can access a server 14. Server 14 has
11 access to one or more databases 15. In one configuration, the
12 server 14 can be publicly accessible such as through the Internet
13 and it also can, for example, be part of an intranet, or private
14 computer network which uses Internet software and standards. It
15 is common today for an organization to set up an intranet, in
16 which access to at least certain data is limited to the
17 organization or to parts of the organization.

18 The objective of providing data, relating to a particular
19 contact, to the agent handling the contact can be accomplished
20 using any over-the-counter browser on the agent's personal
21 computer 13 without the need for specialized software. Figure 2
22 is a flow chart illustrating an example of how this can be
23 accomplished, regardless of the contact type.

24 As shown in Figure 2, ACD 12 can collect contact-derived
25 information before a contact is routed to an agent. For example,
26 in the case of a traditional telephone call, contact-derived

1 information such as a calling party number, a called party
2 number, or an account number can be collected by the ACD 12. For
3 purposes of discussion, calling party number is used to refer
4 generally to information about the call originator which might be
5 derived from the call being made. For example, ANI or automatic
6 number identification can provide the billing number of the
7 originating party. Caller ID can provide a telephone number and
8 name of the originating telephone subscriber in many instances.
9 This information can be collected by ACD 12 as soon as the
10 telephone call arrives.

11 A called party number can be provided by DNIS or dialed
12 number identification service. An organization can use one trunk
13 group to serve a plurality of telephone numbers. Each number can
14 be associated with a separate function, such as sales inquiries,
15 customer technical service, account maintenance, internal use,
16 and so forth. Consequently, the called party number can provide
17 information about the purpose of the telephone call.

18 An account number, a product model number (such as for
19 technical service assistance), or other information can be
20 collected from the caller, such as by a VRU or voice response
21 unit, through programmed scripts prior to the ACD 12 routing the
22 call to an agent.

23 Similar contact-derived information can be collected by the
24 ACD 12 regardless of the type of contact. For example, the
25 source name and subject line of an incoming e-mail can be
26 collected automatically by the ACD 12. In the case of a web

1 callback contact, the ACD could at a minimum collect the number
2 it is calling back and the name of the person for whom the agent
3 is supposed to ask when the callback is executed. A contact's
4 computer address could be collected with a web callback or with a
5 web chat contact.

6 As shown in Figure 2, ACD 12 also can add contact processing
7 information, such as the type of contact, identification of the
8 agent to whom the contact is being routed, or identification of
9 the treatment given the contact (such as the programmed scripts
10 used) which can affect the information which should be displayed
11 to the agent.

12 Continuing with Figure 2, ACD 12 can attach the contact-
13 derived information and/or the contact processing information
14 mentioned above to a URL, or universal resource locator, which
15 the ACD can send to the agent's personal computer 13. A URL is a
16 string expression that at least constitutes a computer network
17 address. Conventionally, a URL begins with a protocol method
18 which a browser is to use when searching for the address. The
19 most common protocol is http (hypertext transport protocol). The
20 information which the ACD 12 can attach to the URL can be
21 information which will be at least part of the data ultimately
22 displayed to the agent. It also can be information used to
23 identify other data which will be sought and packaged for
24 display. For example, an account number collected by the ACD 12
25 can be used to identify the account information which can then be

1 collected from a database 15 for display at the agent's personal
2 computer 13.

3 In one embodiment, ACD 12 can send the URL to the browser on
4 the agent's personal computer 13, without the need for any
5 software relating to the ACD 12 on the agent's personal computer.
6 In another embodiment, ACD 12 can send the URL to separate ACD
7 console software on the agent's personal computer 13, and that
8 separate software can provide the URL to the browser.

9 An organization can develop the type of information and
10 format for information required by its agents. This can include
11 information stored in a plurality of unrelated databases 15,
12 including private information about particular customers stored
13 in limited access locations. The format for this information,
14 and/or instructions for obtaining at least some of the
15 information, can be located on server 14. An organization can
16 develop and set up what it desires on server 14, independent of
17 hardware and software constituting the organization's ACD system
18 12.

19 As mentioned above, the browser can be an ordinary over-the-
20 counter software program, independent of the ACD system 12.
21 Continuing with Figure 2, the browser can operate on the URL
22 received from the ACD 12 just like the browser normally operates.
23 The computer network address included in the URL from ACD 12 can
24 be located in server 14. One or more web pages corresponding
25 with the URL can be displayed to the agent via the browser in the
26 agent's personal computer 13. The web page can be an HTML page.

1 HTML, or hypertext markup language, is a software language
2 frequently used to create web pages. The web page can be a
3 static page. The web page can include links for additional
4 information. An organization can use more than one URL in
5 connection with its ACD system 12. The particular URL, and the
6 particular data in the corresponding web page, can depend on some
7 of the contact information discussed above.

8 Server 14 can include instructions or programs necessary to
9 set up the web page corresponding with the URL, to obtain the
10 content or values of specified parameters, and to interface with
11 any databases 15 to obtain required data. The URL to be sent by
12 the ACD 12 can be configurable to correspond with what has been
13 programmed in the server 14. However, the ACD 12 need only send
14 the URL to the agent's personal computer 13. The ACD 12 need not
15 constrain what is to be displayed to the agent, and need not be
16 integrated with any interfaces necessary to obtain the desired
17 data. The plurality of personal computers 13 of the plurality of
18 agents only need ordinary over-the-counter browsers, and do not
19 need other software application programs to interface with one or
20 more databases 15 or to control the display of data.

21 The embodiments discussed and/or shown in the figures are
22 examples. They are not exclusive ways to practice the present
23 invention, and it should be understood that there is no intent to
24 limit the invention by such disclosure. Rather, it is intended
25 to cover all modifications and alternative constructions and

1 embodiments that fall within the scope of the invention as
2 defined in the following claims:

What is claimed is:

1 1. A method of providing data relating to a customer
2 contact with an automatic call distribution (ACD) system to an
3 ACD agent, the method comprising:
4 providing a universal resource locator (URL) from the ACD
5 system to a browser of the agent;
6 accessing the URL at a server in response to a request from
7 the browser;
8 providing at least one web page to the browser, the web page
9 corresponding with the URL and including the data.

1 2. A method as in claim 1, further comprising accessing via
2 the server at least one database to obtain at least some of the
3 data for inclusion in the web page.

1 3. A method as in claim 1, further comprising attaching
2 information to the URL before providing the URL to the browser.

1 4. A method as in claim 3, the information attached to the
2 URL including contact processing information, said contact
3 processing information including at least one of a group
4 consisting of: type of the customer contact, identification of
5 the agent, and treatment of the contact by the ACD.

1 5. A method as in claim 3, the information attached to the
2 URL including contact-derived information, said contact-derived

information including at least one of a group consisting of: a calling party number, a billing number associated with an origin of the customer contact, a telephone number associated with the origin of the customer contact, a subscriber name associated with the origin of the customer contact, a called party number, information provided in response to a programmed script, identification of a customer provided in response to a programmed script, an account number provided in response to a programmed script, a product model number provided in response to a programmed script, an e-mail source name, an e-mail subject line, a callback number provided in a web callback contact, a callback name provided in a web callback contact, and a computer address associated with the origin of the customer contact.

6. A method as in claim 1, wherein the data in the web page includes at least some information attached to the URL by the ACD.

7. A method as in claim 1, further comprising selecting the URL based on information about the contact available to the ACD.

8. A method as in claim 1, further comprising obtaining at least some of the data in the web page based on at least some information attached to the URL by the ACD.

1 9. A method as in claim 1, wherein the step of providing
2 the URL comprises:
3 sending the URL to ACD console software of the agent; and
4 providing the URL to the browser from the console software.

1 10. A method as in claim 1, wherein the step of providing
2 the URL comprises sending the URL directly to the browser from
3 the ACD system.

1 11. A method as in claim 1, the server being accessible
2 through at least one of a group consisting of: a publicly
3 accessible computer network, limited-access computer network, and
4 a private computer network accessible within an organization
5 operating the ACD.

1 12. A method as in claim 1, the customer contact being one
2 of a group consisting of: a telephone call, an e-mail contact, a
3 web callback contact, a web chat contact, a facsimile contact, a
4 video contact, and a web telephony voice contact.

1 13. A method as in claim 1, further comprising displaying
2 the web page to the agent.

1 14. A computer system for providing data, relating to a
2 customer contact with an automatic call distribution (ACD)
3 system, to an ACD agent, the computer system comprising:

4 the ACD system capable of providing a universal resource
5 locator (URL);

6 a server capable of providing at least one web page to a
7 browser, the web page corresponding with the URL and including
8 the data;

9 at least one agent station coupled with the ACD system and
10 having a browser capable of accessing the URL at the server.

1 15. A computer system as in claim 14, further comprising at
2 least one database, accessible by the server for obtaining at
3 least some of the data for inclusion in the web page.

1 16. A computer system as in claim 14, the ACD being capable
2 of attaching information to the URL.

1 17. A computer system as in claim 14, the ACD being capable
2 of collecting contact-derived information, said contact-derived
3 information including at least one of a group consisting of: a
4 calling party number, a billing number associated with an origin
5 of the customer contact, a telephone number associated with the
6 origin of the customer contact, a subscriber name associated with
7 the origin of the customer contact, a called party number,
8 information provided in response to a programmed script,
9 identification of a customer provided in response to a programmed
10 script, an account number provided in response to a programmed
11 script, a product model number provided in response to a

12 programmed script, an e-mail source name, an e-mail subject line,
13 a callback number provided in a web callback contact, a callback
14 name provided in a web callback contact, and a computer address
15 associated with the origin of the customer contact.

1 18. A computer system as in claim 14, the server being
2 capable of obtaining at least some of the data in the web page
3 based on at least some information attached to the URL by the
4 ACD.

1 19. A computer system as in claim 14, the customer contact
2 being one of a group consisting of: a telephone call, an e-mail
3 contact, a web callback contact, a web chat contact, a facsimile
4 contact, a video contact, and a web telephony voice contact.

1 20. A computer system of providing data, relating to a
2 customer contact with an automatic call distribution (ACD)
3 system, to an ACD agent, the computer system comprising:
4 a server accessible through a computer network;
5 at least one agent station having means for accessing a
6 universal resource locator (URL) at the server;
7 means for providing the URL from the ACD system to the agent
8 station computer;
9 means for providing at least one web page to the agent
10 station from the server, the web page corresponding with the URL
11 and including the data.

1 21. A computer system as in claim 20, further comprising
2 at least one database; and
3 means for accessing the database to obtain at least some of
4 the data for inclusion in the web page.

1 22. A computer system as in claim 20, further comprising
2 means for the ACD to attach information to the URL.

1 23. A computer system as in claim 20, further comprising
2 means for the ACD to collect contact-derived information.

1 24. A computer system as in claim 20, further comprising
2 means for displaying the web page to the agent.

ABSTRACT

Method and apparatus for providing customer data to an agent in connection with an organization's automatic call distribution (ACD) system. The desired customer data and its format can be tailored to the organization's needs and packaged as a web page. The ACD provides a URL to a browser of the agent, which accesses the URL at a server. The web page corresponds with the URL and is provided by the server to the browser. The data can be displayed to the agent, regardless of the type of customer contact with the organization's ACD system.

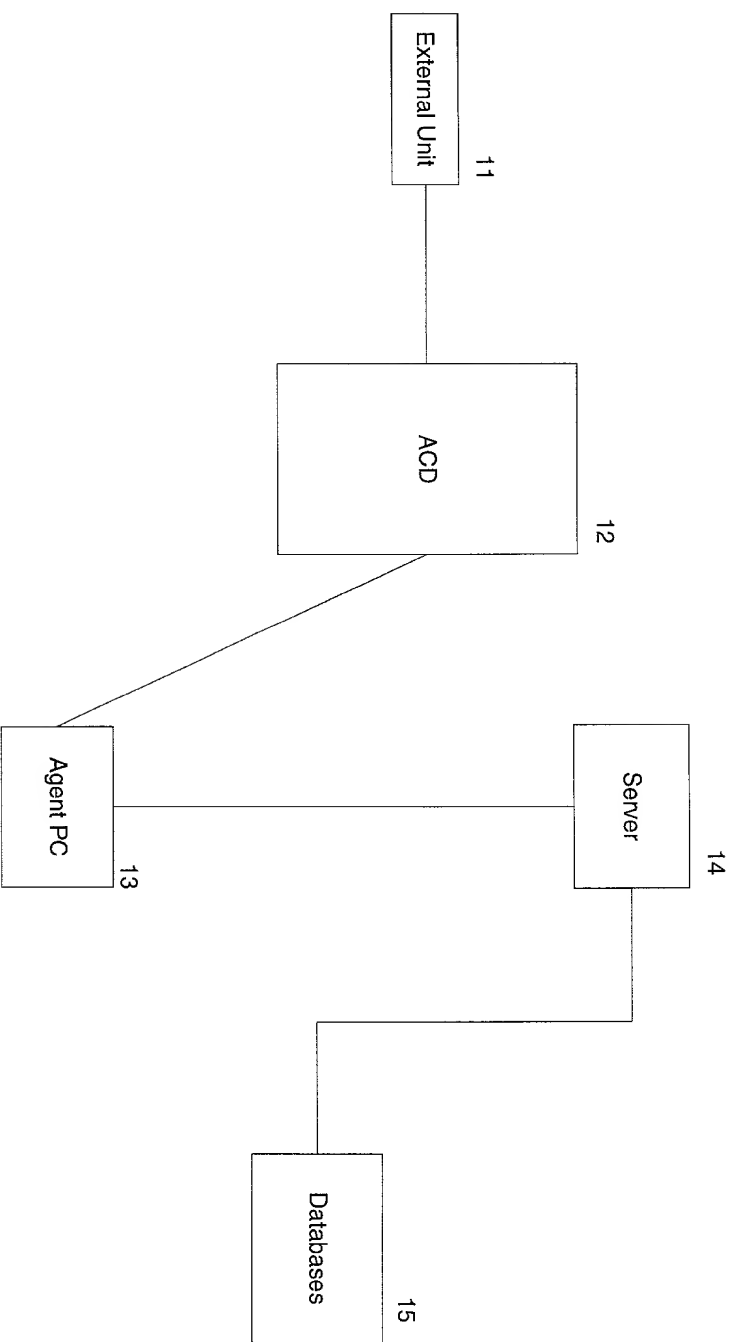
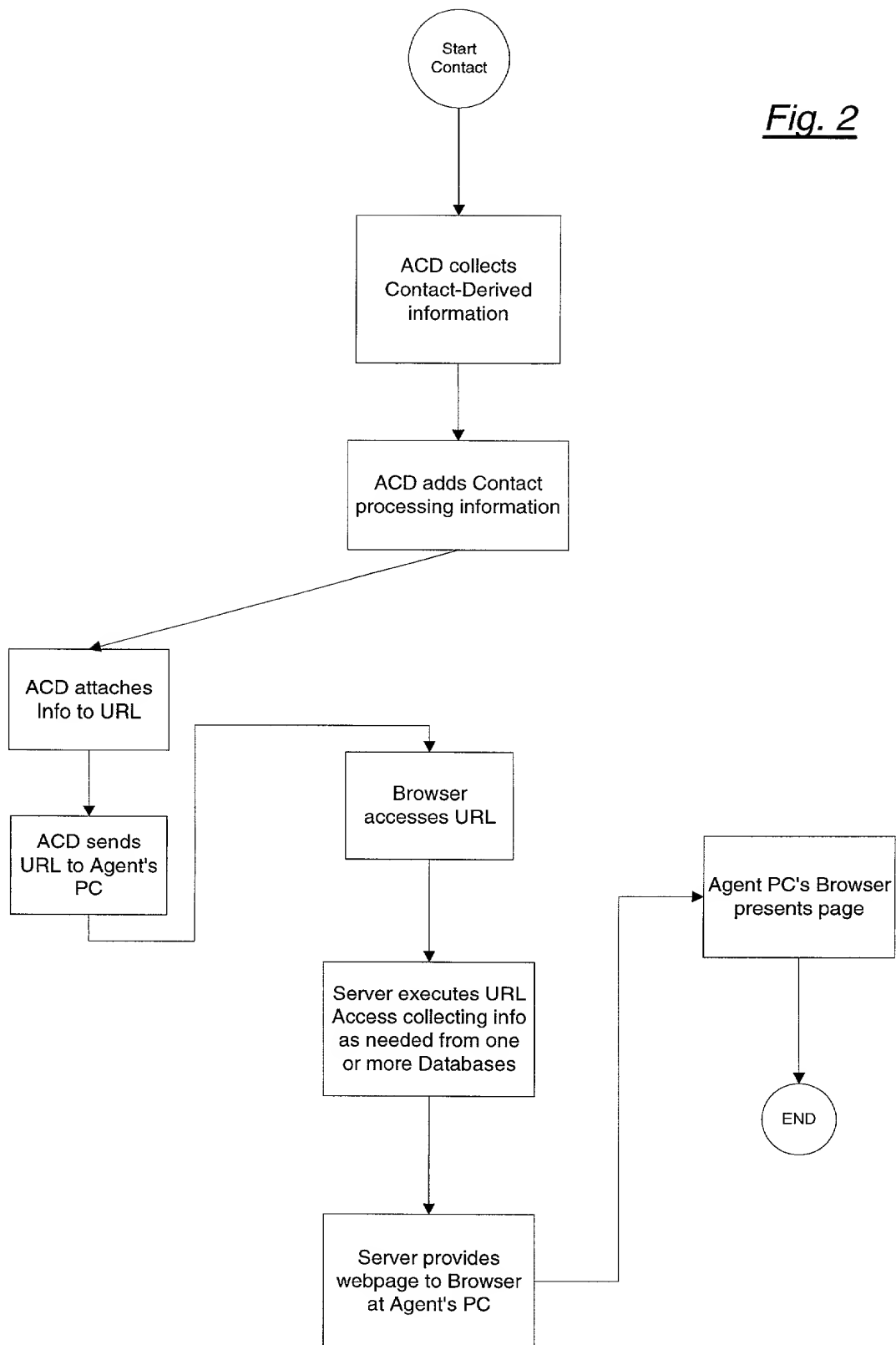


Fig. 1

FIG. 1 is a block diagram of a system architecture.



DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare:

That my residence, post office address and citizenship are as stated below next to my name.

That I verily believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

PROVIDING CUSTOMER DATA TO AN AUTOMATIC CALL DISTRIBUTION SYSTEM AGENT

the specification of which is attached hereto.

That I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

That I acknowledge the duty to disclose information to be material to patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

That I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate on this invention having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s) None

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

_____	_____
(Application Number)	(Filing Date)

_____	_____
(Application Number)	(Filing Date)

That I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

United States Application(s)

_____	_____	_____
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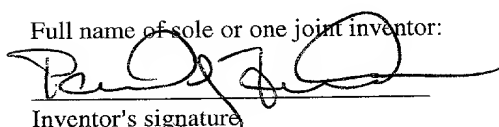
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I hereby appoint the following attorneys, with full power of substitution and revocation, to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith and request that all correspondence and telephone calls in respect to this application be directed to WELSH & KATZ, LTD., 120 South Riverside Plaza, 22nd Floor, Chicago, Illinois 60606, Telephone No. (312) 655-1500.

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